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Title of Document Transmitted:	**TRANSMITTAL DOCUMENTS (2) AND BRIEF OF APPELLANTS**
Applicant:	William C. Y. Lee et al.
Serial No.:	09/625,626
Filed:	July 26, 2000
Group Art Unit:	2617
Title:	NETWORK ENGINEERING IN A WIRELESS NETWORK
Our Ref. No.:	G&C 139.136-US-U1

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Applicant:	William C. Y. Lee et al.	Examiner:	Sharad K. Rampuria
Serial No.:	09/625,626	Group Art Unit:	2617
Filed:	July 26, 2000	Docket:	G&C 139.136-US-U1
Title:	NETWORK ENGINEERING IN A WIRELESS NETWORK		

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Due Date: October 22, 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

Inventor: William C. Y. Lee et al.

Serial #: 09/625,626

Filed: July 26, 2000

Title: NETWORK ENGINEERING IN A WIRELESS NETWORK

Examiner: Sharad K. Rampuria

Group Art Unit: 2617

Appeal No.: _________

BRIEF OF APPELLANTS

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 CFR §41.37, Appellants' attorney hereby submits the Brief of Appellants on appeal from the final rejection in the above-identified application, as set forth in the Office Action dated May 22, 2007.

Please charge the amount of $510.00 to cover the required fee for filing this Brief as set forth under 37 CFR §41.37(a)(2) and 37 CFR §41.20(b)(2) to Deposit Account No. 50-0494 of Gates & Cooper LLP.

I. REAL PARTY IN INTEREST

The real party in interest is Cellco Partnership, the assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences for the above-referenced patent application.

III. STATUS OF CLAIMS

Claims 1-10, 12-25, and 27-30 are pending in the application.

Claims 11 and 26 have been canceled.

Claims 1, 3-10, 12-16, 18-25, and 27-30 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,095,500 (Tayloe) in view of U.S. Patent No. 5,303,240 (Borras).

Claims 2 and 17 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,095,500 (Tayloe) in view of U.S. Patent No. 5,303,240 (Borras), and further in view of U.S. Patent No. 5,479,482 (Grimes).

Claims 1-10, 12-25, and 27-30 are being appealed.

IV. STATUS OF AMENDMENTS

No amendments were made subsequent to the final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a method for operating a wireless network (100). Information is collected and analyzed from the wireless network (100) into a collection and analysis system (114) coupled to the wireless network (100), wherein the information includes location information on a plurality of mobile transceivers (112) communicating with the wireless network (100). The wireless network's (100) operation is optimized from a network control system (116) coupled to the wireless network (100) by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network (100) in the direction of one or more of the plurality of mobile transceivers (112) using the collected and analyzed information. (See page 2, line 15 through page 3, line 8; page 4, lines 15-19; page 4, line 21 through page 6, line 3 referring to reference numbers 100, 112, 114 and 116 in FIG. 1; page 6, lines 8-19 referring to reference numbers 100, 114 and 116 in FIG. 2A; page 14, line 11 through page 15, line 14 referring to reference numbers 600-612 in FIG. 6).

Independent claim 16 is directed to a system for operating a wireless network (100). A data collection and filter system (114), coupled to the wireless communications system (100), collects and analyzes information from the wireless network (100), wherein the information

includes location information on a plurality of mobile transceivers (112) communicating with the wireless network (100). A network control system (116), coupled to the wireless communications system (100) and the data collection and filter system (114), optimizes the wireless network's (100) operation by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network (100) in the direction of one or more of the plurality of mobile transceivers (112) using the collected and analyzed information. (See page 2, line 15 through page 3, line 8; page 4, lines 15-19; page 4, line 21 through page 6, line 3 referring to reference numbers 100, 112, 114 and 116 in FIG. 1; page 6, lines 8-19 referring to reference numbers 100, 114 and 116 in FIG. 2A; page 14, line 11 through page 15, line 14 referring to reference numbers 600-612 in FIG. 6).

Claim 20, which is dependent on independent claim 16, recites that the network control further comprises means for dynamically allocating radio frequency (RF) signal power in the wireless network based on the collected and analyzed information. (This claim element is a means plus function element, and the structures and acts described in the specification corresponding to this function are found in the specification at page 10, line 14 through page 12, line 2 referring to reference numbers 100, 106, 108, 112 in FIG. 4A and reference numbers 400-404 in FIG. 4B.)

Claim 21, which is dependent on dependent claim 20, recites that the means for dynamically allocating further comprises means for dynamically assigning RF signal power to cells, sectors within cells, and mobile transceivers based on the collected and analyzed information. (This claim element is a means plus function element, and the structures and acts described in the specification corresponding to this function are found in the specification at page 10, line 14 through page 12, line 2 referring to reference numbers 100, 106, 108, 112 in FIG. 4A and reference numbers 400-404 in FIG. 4B.)

Claim 22, which is dependent on independent claim 16, recites that the network control further comprises means for setting dynamic dedicated handoff (HO) thresholds for individual mobile transceivers based on the collected and analyzed information. (This claim element is a means plus function element, and the structures and acts described in the specification corresponding to this function are found in the specification at page 12, line 4 through page 14,

line 9, referring to reference numbers 100, 106, 108, 112, 500 and 502 in FIG. 5A and reference numbers 504-514 in FIG. 5B.)

Claim 24 which is dependent on dependent claim 23, recites that the network control further comprises means for performing handoffs for individual mobile transceivers based on their unique, assigned HO (hand off) threshold and their location. (This claim element is a means plus function element, and the structures and acts described in the specification corresponding to this function are found in the specification at page 12, line 4 through page 14, line 9, referring to reference numbers 100, 106, 108, 112, 500 and 502 in FIG. 5A and reference numbers 504-514 in FIG. 5B.)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1, 3-10, 12-16, 18-25, and 27-30 are obvious under 35 U.S.C. §103(a) over U.S. Patent No. 5,095,500 (Tayloe) in view of U.S. Patent No. 5,303,240 (Borras).

2. Whether claims 2 and 17 are obvious under 35 U.S.C. §103(a) over U.S. Patent No. 5,095,500 (Tayloe) in view of U.S. Patent No. 5,303,240 (Borras), and further in view of Grimes, U.S. Patent No. 5,479,482 (Grimes).

VII. ARGUMENT

A. The Office Action Rejections

On pages (2)-(7) of the Office Action, claims 1, 3-10, 12-16, 18-25, and 27-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,095,500 (Tayloe) in view of U.S. Patent No. 5,303,240 (Borras). On page (7) of the Office Action, claims 2 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tayloe and Borras and further in view of U.S. Patent No. 5,479,482 (Grimes).

Appellants' attorney respectfully traverses these rejections.

B. The Tayloe Reference

Tayloe describes a system and method of evaluating the radio coverage of a geographic area serviced by a digital cellular radiotelephone communication system, which comprises a

plurality of base stations each having a transmitter and a receiver and a plurality of mobile units having co-located transmitters and receivers for transmitting and receiving communication message signals between the base stations and a mobile unit. During operation, the position of at least one of the mobile units operating within the geographic area is located when a call is received by a base station. The base station monitors the signal quality of the call and collects information relevant to the actual performance of the communication system. The mobile unit location and corresponding signal quality data are passed from the base station to a central operation and maintenance unit which collects the data, performs all necessary analytic and arithmetic computations, and provides a user-friendly representation of the characteristics of the radio coverage. With this representation of the radio coverage characteristics, the system operator can quickly and efficiently diagnose coverage deficiencies and take the necessary corrective action. By continuously monitoring subscriber calls and updating the pictographic representations, the system operator can actually observe the effect of the adopted modifications in a pseudo real-time fashion.

C. <u>The Borras Reference</u>

Borras describes a communication system for determining the optimum direction for transmitting and receiving a signal in a radio, which comprises a receiver for receiving a carrier signal being a time divided signal having an instruction signal, a transmitter for transmitting a time divided signal, a directional antenna coupled to said receiver and transmitter, and a steering device for changing the phase of the carrier signal in accordance with the instruction signal.

D. <u>The Grimes Reference</u>

Grimes describes a cellular terminal for transmitting information defining its location upon placing a 911 call. The cellular terminal includes a global satellite positioning (GPS) device; and upon the user of the cellular terminal placing an emergency telephone call, the cellular terminal interrogates the GPS device to obtain the geo-coordinates. The cellular terminal then transmits the geo-coordinates to a cellular telecommunication switching system. The cellular switching system or a public safety answering point (PSAP) system responding to the

911 call converts the geo-coordinates into location information. In addition, the cellular terminal transmits to the cellular telecommunication switching system pre-defined vehicle description information if the cellular terminal is being utilized within a vehicle. If the cellular terminal is a hand held unit, the cellular terminal can be programmed to transmit personal characteristics of the person using the cellular terminal. In another embodiment, the cellular terminal obtains the geo-coordinates from the GPS device and converts the geo-coordinates to location information using information stored internal to the cellular terminal. The location information is transmitted to the PSAP via the cellular switching system rather than the geo-coordinates.

E. Arguments directed to the first grounds for rejection: Whether claims 1, 3-10, 12-16, 18-25, and 27-30 are obvious under 35 U.S.C. §103(a) over U.S. Patent No. 5,095,500 (Tayloe) in view of U.S. Patent No. 5,303,240 (Borras).

1. Independent claims 1 and 16

The Appellants' invention, as recited in independent claims 1 and 16 is patentable over the references, because it contains limitations not taught by the references. Specifically, the references do not teach or suggest the same combination of limitations comprising: "collecting and analyzing information from the wireless network into a collection and analysis system coupled to the wireless network, wherein the information includes location information on a plurality of mobile transceivers communicating with the wireless network," and "optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information."

Nonetheless, with regard to the independent claims, the Office Action asserts the following:

> Regarding Claim 1, Tayloe disclosed a method for operating a wireless network (abstract), comprising:
>
> (a) Collecting and analyzing information from the wireless network into a collection and analysis system coupled to the wireless network (OMCU; 116; Fig. 1; Col. 5; 25-39), wherein the information includes location information on

mobile transceivers operating within the network; (Col. 5; 25-39) and

Tayloe fails to disclosed optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams in the direction of one or more mobile transceivers using the collected and analyzed information. However, Borras teaches in an analogous art, that (b) optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams in the direction of one or more mobile transceivers using the collected and analyzed information. (e.g. sweeping the directional antenna to maximize the gain; Col. 2; 13-24, Col. 4; 49 - Col. 5; 3) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Tayloe including optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams in the direction of one or more mobile transceivers using the collected and analyzed information in order to offer an enterprise of a directional antenna to increase system gain in a limited <u>direction</u> by reducing the system gain in other <u>directions</u>. The use of a plurality of antennas and/or a means of <u>steering</u> a given number of antennas in addition to measuring signal quality (in a given <u>direction</u>) would allow the selection of a particular <u>direction</u> to achieve improved system gain. Antenna arrays are typically used to <u>steer</u> an antenna <u>beam</u> electronically.

In addition, the Office Action makes the following statements:

Response to Remarks

IV. Applicant's arguments filed on 03/06/2007 have been fully considered but they are not persuasive.

Relating to Claim 1:

Since BORRAS teaches, "the transceiver, (preferably the portable communication unit) would scan by "sweeping" the antenna (404) preferably using a scanning means and then measure the signal quality in each antenna <u>direction</u> (406) preferably using a signal quality measuring means. The best antenna <u>direction</u> is selected (408) preferably using <u>a steering means which steers</u> the antenna in the <u>direction</u> providing the best signal quality. Once the best <u>direction</u> is assigned, then normal communications can proceed (410)." (Borras, Col. 2; 13-24, Col.4; 49 - Col. 5; 3), which corresponds to the claimed limitation as "optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information." Thus, sweeping the directional antenna to maximize the gain the best signal quality, (Borras, Col. 4; 49 - Col. 5; 3), is exactly as applicant is rely upon, Yet another area of optimization provided by the present invention is

intelligent beam steering and beam forming using the information provided to the Data Collection and Filtering system 114. The Network Control system 116 can intelligently "steer" and/or "form" RF signal beams generated by the BTS's 106 more intelligently, since the location, speed, and direction of the mobile transceivers 112 is available from the E911 information. For example, a "smart" antenna (such as a phased array antenna) can assign power in the direction of one or more mobile transceivers 112 as required. (Lee et al., Specification, filed on 07/26/2000), that certainly, edify by BORRAS. Hence, it is believed that BORRAS still teaches the claimed limitations.

The above arguments also recites for the claim 16, consequently the response is the same explanation as set forth above with regard to claim I.

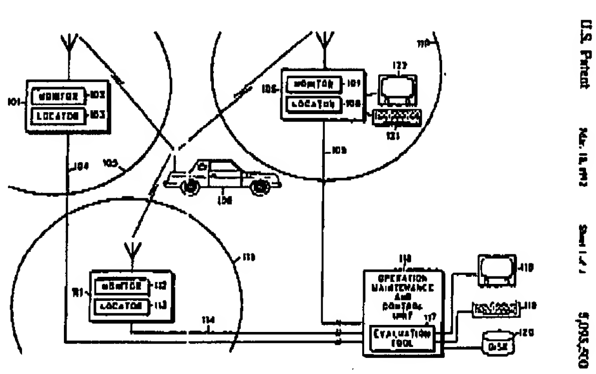
Because the remaining claims depend directly/indirectly, from one of the independent claims discussed above, consequently the response is the same explanation as set forth above.

With the intention of that explanation, it is believed and as enlighten above, the refutation are sustained.

Appellants' attorney disagrees with this analysis.

At the indicated locations, the Tayloe and Borras references do not teach or suggest all the limitations of Appellants' claims. Instead, at the indicated locations, the Tayloe and Borras references merely recite the following:

Tayloe: FIG. 1



Tayloe: Col. 5, lines 25-65

As base stations 101, 106, and 111 communicate with device 100, information concerning the mobile unit location and the resultant signal quality is gathered and passed along lines 104, 109, or 114 to the Operation Maintenance

and Control Unit (OMCU) 116. The OMCU is a centralized management tool within the communication system which supports the basic operation and maintenance functions required by each serviced base station. Via the terminal 119 and the CRT display 118, a system operator can access base station 101, 106, or 111 and alter various system parameters such as: transmitter power, transmitter frequency, frequency assignments, or software algorithms. In addition the OMCU provides the mass storage 120 and necessary computing power to support these operations.

Careful review of FIG. 1 reveals that the evaluation tool 117 is mated with the OMCU. The evaluation tool performs the required statistical analysis and correlation which relates the mobile unit's position with the resultant signal quality. As a function of these actual measurements, the evaluation tool is capable of providing a computer generated representation of the characteristics of the electromagnetic coverage. These representations, graphical or tabular, are presented to the system operator via CRT displays 118 or 122. Armed with this information, the system operator can easily plan, diagnose, or optimize the electromagnetic coverage of that communication system.

When corrective actions are required, the system operator can initiate previously mentioned alterations from the OMCU. Hardware specific alterations like: increasing or decreasing antenna height, adding additional base stations, utilizing omni or directional antennae, or varying antenna shaping must be performed in the field. Upon completion, continuously monitoring subscriber calls within the affected area allows the evaluation tool to update the graphical representations for that areas. These updates, in turn, enables the system operator to quickly and efficiently evaluate the effectiveness of proposed solutions, and make additional changes as required.

Borras: Col. 2, lines 13-24

Referring to FIG. 1, there is shown a block diagram of a telecommunications system 100 that preferably uses an electronically controlled directional antenna in a portable communication unit such as a portable two way radio for aiming, steering, or "sweeping" the antenna. Preferably, the signal quality received at the portable communication unit determines the antenna steering. The best "signal quality" could mean the best signal strength, the best signal-to-noise (S/N) ratio, signal-to-interference (S/I) ratio, or other signal quality determining factor. This system is preferably for use in a portable transceiver and/or a base station.

Borras: Col. 4, line 49 - col. 5, line 3

Referring to FIG. 6, there is shown a typical algorithm that could be used with the present invention for the selection of an antenna direction. First, a transceiver would need to receive a "training" signal in the training time slot (402). Then the transceiver, (preferably the portable communication unit) would scan by "sweeping" the antenna (404) preferably using a scanning means and then

> measure the signal quality in each antenna direction (406) preferably using a signal quality measuring means. The best antenna direction is selected (408) preferably using a steering means which steers the antenna in the direction providing the best signal quality. Once the best direction is assigned, then normal communications can proceed (410). However, if it is later determined that the chosen direction is inadequate (412) or not optimal, another direction may be selected. For example, if the receive time slot is corrupted, the portable communication unit may about decoding the slot and use the remainder of the slot to "train" or select a new direction to use for the transmit time slot. Also, the algorithm may store the past history of directions (411), including alternate choices in order to make a better decision when choosing antenna direction.

In Tayloe, information concerning the mobile unit location and the resultant signal quality is gathered and passed to the Operation Maintenance and Control Unit (OMCU), which supports the basic operation and maintenance functions required by each serviced base station. However, Tayloe only suggests that various system parameters, such as transmitter power, can be altered.

In Borras, an antenna direction for a portable communications unit is selected by sweeping an antenna and scanning for the direction of the best signal quality. (Borras also mentions that the system could be used in a base station, but still only refers to a single transceiver.) However, information is collected from a single antenna, but not the wireless network itself. Moreover, the function of determining the direction of the best signal quality for a single antenna is not the same as the functions of collecting and analyzing location information in a wireless network regarding a plurality of mobile transceivers communicating with the wireless network. Finally, Borras merely selects a single antenna's direction for the single transceiver, based on the signals received by that antenna, but does not optimize a wireless network's operation by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers, using the collected and analyzed information.

As a result, the combination of Tayloe and Borras does not teach or suggest optimizing a wireless network's operation by intelligently forming RF signal beams transmitted from a wireless network in the direction of one or more of the plurality of using information collected

from the wireless network system and then analyzed, wherein the information includes location information on a plurality of mobile transceivers communicating with the network.

Moreover, it is the Office Action that provides the motivation to combine the teachings of the references, rather than the references themselves. Consequently, it is only via hindsight that the Office Action could assert such a combination, or suggest a motivation to combine.

Further, Grimes fails to overcome the deficiencies of Tayloe and Borras. Recall that Grimes was only cited against dependent claims 2 and 17, and only for teaching E911 location information. In addition, Grimes does not teach the use of E911 location information in the same context as Appellants' invention, i.e., optimizing the operation of a wireless network, but only in the context of provisioning emergency services.

Finally, the various elements of Appellants' claimed invention together provide operational advantages over Tayloe and Borras. In addition, Appellants' invention solves problems not recognized by Tayloe and Borras.

Thus, Appellants' attorney submits that independent claims 1 and 16 are allowable over Tayloe and Borras.

2. Claims 3 and 18

With regard to dependent claims 3 and 18, which recite that the information further includes one or more types of information selected from a group comprising Hand Off (HO) information, Power information, Measurements, and System Parameters from the wireless network, these claims stand or fall with independent claims 1 and 16.

3. Claims 4 and 19

With regard to dependent claims 4 and 19, which recite that the information is collected when certain defined thresholds are triggered, the Office Action asserts that these limitations are described in Borras at col. 5, lines 7-29. Appellants' attorney disagrees. At the indicated location, Borras says nothing about the use of thresholds as triggers to collect information. Instead, Borras simply refers to controlling handoffs by measuring signal quality.

4. Claims 5 and 20

With regard to dependent claims 5 and 20, which recite that the optimizing step or network control further comprises the step of or means for dynamically allocating radio frequency (RF) signal power in the wireless network based on the collected and analyzed information, the Office Action asserts that these limitations are described in Tayloe at col. 5, lines 1-5. Appellants' attorney disagrees. At the indicated location, Tayloe merely refers to a base station commanding a mobile unit to vary its transmission power as it nears the base.

5. Claims 6 and 21

With regard to dependent claims 6 and 21, which recite that the dynamically allocating step or means for dynamically allocating further comprises the step of or means for dynamically assigning RF signal power to cells, sectors within cells, and mobile transceivers based on the collected and analyzed information, the Office Action asserts that these limitations are described in Tayloe at col. 5, lines 1-5 and col. 6, lines 9-15. Appellants' attorney disagrees. At the indicated locations, Tayloe merely refers to a base station commanding a mobile unit to vary its transmission power as it nears the base and increasing the transmitter power at a base station to increase the cell coverage area.

6. Claims 7 and 22

With regard to dependent claims 7 and 22, which recite that the optimizing step or network control further comprises the step of or means for setting dynamic dedicated handoff (HO) thresholds for individual mobile transceivers based on the collected and analyzed information, the Office Action asserts that these limitations are described in Borras at col. 5, lines 7-29. Appellants' attorney disagrees. At the indicated location, Borras merely refers to controlling handoffs by measuring signal quality.

7. Claims 8 and 23

With regard to dependent claims 8 and 23, which recite that the individual mobile transceivers each have a unique, assigned HO (hand off) threshold, the Office Action asserts that

these limitations are described in Borras at col. 5, lines 7-29. Appellants' attorney disagrees. At the indicated location, Borras merely refers to controlling handoffs by measuring signal quality.

8. Claims 9 and 24

With regard to dependent claims 9 and 24, which recite that the optimizing step or network control further comprises the step of or means for performing handoffs for individual mobile transceivers based on their unique, assigned HO (hand off) threshold and their location, the Office Action asserts that these limitations are described in Borras at col. 5, lines 7-29. Appellants' attorney disagrees. At the indicated location, Borras merely refers to controlling handoffs by measuring signal quality.

9. Claims 10 and 25

With regard to dependent claims 10 and 25, which recite that the performing step or means for performing comprises the step of or means for performing handoffs for individual mobile transceivers in order to minimize interference levels, these claims stand or fall with dependent claims 9 and 24.

10. Claims 12 and 27

With regard to dependent claims 12 and 27, which recite that the intelligently steering step or means for intelligently steering further comprises the step of or means for intelligently forming an RF signal beam based on the collected and analyzed information, these claims stand or fall with independent claims 1 and 16.

11. Claims 13 and 28

With regard to dependent claims 13 and 28, which recite that claims 1 and 16 further comprise the step of means for identifying and resolving problems using the collected and analyzed information, these claims stand or fall with independent claims 1 and 16.

12. Claims 14 and 29

With regard to dependent claims 14 and 29, which recite that the identifying and resolving step or means for identifying and resolving further comprises the step of or means for identifying problems in the wireless network, and correlating the identified problems with the collected and analyzed information, these claims stand or fall with dependent claims 13 and 28.

13. Claims 15 and 30

With regard to dependent claims 15 and 30, which recite that the correlating step or means for correlating further comprises the step of or means for correlating the identified problems with mobile transceiver location information from the collected and analyzed information, these claims stand or fall with dependent claims 14 and 29.

G. Arguments directed to the second grounds for rejection: Whether claims 2 and 17 are obvious under 35 U.S.C. §103(a) over U.S. Patent No. 5,095,500 (Tayloe) in view of U.S. Patent No. 5,303,240 (Borras), and further in view of Grimes, U.S. Patent No. 5,479,482 (Grimes).

Appellants' invention, as set forth in dependent claims 2 and 17, which are dependent on independent claims 1 and 16, respectively, stand or fall with claims 1 and 16. Dependent claims 2 and 17 are submitted to be allowable over Tayloe, Borras and Grimes in the same manner as independent claims 1 and 16, because they are dependent on independent claims 1 and 16, respectively, and thus contain all the limitations of independent claims 1 and 16.

Specifically, the combination of Tayloe, Borras and Grimes does not teach or suggest that "the location information comprises E911 location information," in the context of operating a wireless network, where the information is location information on a plurality of mobile transceivers communicating with the wireless network that is collected and analyzed in a collection and analysis system coupled to the wireless network, and the wireless network's operation is optimized from a network control system by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information. Instead, as noted above,

Tayloe and Borras do not teach or suggest Appellants' independent claims and Grimes merely refers to the provisioning emergency services in a wireless network.

VIII. Conclusion

In light of the above arguments, Appellants' attorney respectfully submits that the cited references do not anticipate nor render obvious the claimed invention. More specifically, Appellants' claims recite novel physical features which patentably distinguish over any and all references under 35 U.S.C. §§ 102 and 103.

As a result, a decision by the Board of Patent Appeals and Interferences reversing the Examiner and directing allowance of the pending claims in the subject application is respectfully solicited.

Respectfully submitted,

GATES & COOPER LLP
Attorneys for Appellants

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Date: October 22, 2007

By: [signature]
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GHG/

CLAIMS APPENDIX

1. (PREVIOUSLY PRESENTED) A method for operating a wireless network, comprising:

(a) collecting and analyzing information from the wireless network into a collection and analysis system coupled to the wireless network, wherein the information includes location information on a plurality of mobile transceivers communicating with the wireless network; and

(b) optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information.

2. (ORIGINAL) The method of claim 1, wherein the location information comprises E911 location information.

3. (ORIGINAL) The method of claim 1, wherein the information further includes one or more types of information selected from a group comprising Hand Off (HO) information, Power information, Measurements, and System Parameters from the wireless network.

4. (ORIGINAL) The method of claim 1, wherein the information is collected when certain defined thresholds are triggered.

5. (ORIGINAL) The method of claim 1, wherein the optimizing step further comprises dynamically allocating radio frequency (RF) signal power in the wireless network based on the collected and analyzed information.

6. (ORIGINAL) The method of claim 5, wherein the dynamically allocating step further comprises dynamically assigning RF signal power to cells, sectors within cells, and mobile transceivers based on the collected and analyzed information.

7. (ORIGINAL) The method of claim 1, wherein the optimizing step further comprises setting dynamic dedicated handoff (HO) thresholds for individual mobile transceivers based on the collected and analyzed information.

8. (ORIGINAL) The method of claim 7, wherein the individual mobile transceivers each have a unique, assigned HO (hand off) threshold.

9. (ORIGINAL) The method of claim 8, wherein the optimizing step further comprises performing handoffs for individual mobile transceivers based on their unique, assigned HO (hand off) threshold and their location.

10. (ORIGINAL) The method of claim 9, wherein the performing step comprises performing handoffs for individual mobile transceivers in order to minimize interference levels.

11. (CANCELED)

12. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the intelligently steering step further comprises intelligently forming an RF signal beam based on the collected and analyzed information.

13. (ORIGINAL) The method of claim 1, further comprising identifying and resolving problems using the collected and analyzed information.

14. (ORIGINAL) The method of claim 13, wherein the identifying and resolving step further comprises identifying problems in the wireless network, and correlating the identified problems with the collected and analyzed information.

15. (ORIGINAL) The method of claim 14, wherein the correlating step further comprises correlating the identified problems with mobile transceiver location information from the collected and analyzed information.

16. (PREVIOUSLY PRESENTED) A system for operating a wireless communications network, comprising:

(a) a data collection and filter system, coupled to the wireless communications system, for collecting and analyzing information from the wireless network, wherein the information includes location information on a plurality of mobile transceivers communicating with the wireless network; and

(b) a network control system, coupled to the wireless communications system and the data collection and filter system, for optimizing the wireless network's operation by intelligently steering radio frequency (RF) signal beams transmitted from the wireless network in the direction of one or more of the plurality of mobile transceivers using the collected and analyzed information.

17. (ORIGINAL) The system of claim 16, wherein the location information comprises E911 location information.

18. (ORIGINAL) The system of claim 16, wherein the information further includes one or more types of information selected from a group comprising Hand Off (HO) information, Power information, Measurements, and System Parameters from the wireless network.

19. (ORIGINAL) The system of claim 16, wherein the information is collected when certain defined thresholds are triggered.

20. (ORIGINAL) The system of claim 16, wherein the network control further comprises means for dynamically allocating radio frequency (RF) signal power in the wireless network based on the collected and analyzed information.

21. (ORIGINAL) The system of claim 20, wherein the means for dynamically allocating further comprises means for dynamically assigning RF signal power to cells, sectors within cells, and mobile transceivers based on the collected and analyzed information.

22. (ORIGINAL) The system of claim 16, wherein the network control further comprises means for setting dynamic dedicated handoff (HO) thresholds for individual mobile transceivers based on the collected and analyzed information.

23. (ORIGINAL) The system of claim 22, wherein the individual mobile transceivers each have a unique, assigned HO (hand off) threshold.

24. (ORIGINAL) The system of claim 23, wherein the network control further comprises means for performing handoffs for individual mobile transceivers based on their unique, assigned HO (hand off) threshold and their location.

25. (ORIGINAL) The system of claim 24, wherein the means for performing comprises means for performing handoffs for individual mobile transceivers in order to minimize interference levels.

26. (CANCELED)

27. (PREVIOUSLY PRESENTED) The system of claim 16, wherein the means for intelligently steering further comprises means for intelligently forming an RF signal beam based on the collected and analyzed information.

28. (ORIGINAL) The system of claim 16, wherein the data collection and analysis system further comprises means for identifying and resolving problems using the collected and analyzed information.

29. (ORIGINAL) The system of claim 28, wherein the means for identifying and resolving further comprises means for identifying problems in the wireless network, and correlating the identified problems with the collected and analyzed information.

30. (ORIGINAL) The system of claim 29, wherein the means for correlating further comprises means for correlating the identified problems with mobile transceiver location information from the collected and analyzed information.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.